

IN THE CLAIMS

This listing of claims substitute any and all previously listed claims.

1. (currently amended) A bioactive polypeptide, MF3, with a primary structure depicted in SEQ ID NO:1, an active fragment of MF3, or any functional derivative of MF3,
said polypeptide, active fragment or functional derivative being capable of effecting a resistance of a plant against microbial diseases and/or against attack of plant parasites.
2. (original) An isolated DNA sequence depicted in SEQ ID:2, or fragment thereof, encoding a functionally active MF3 or its active fragment according to claim 1, wherein said DNA fragment may contain degenerate codons.
3. (currently amended) A method of acquiring resistance of a plant against microbes and/or plant parasites by introducing the bioactive polypeptide MF3 of claim 1, or an active fragment, or a functional derivative thereof into plants mechanically or by means of carrier molecules.
4. (original) The method according to claim 3, wherein the carrier is chitosan.
5. (original) A vector comprising the DNA according to claim 2.
6. (currently amended) ~~A The method of generating a~~ transgenic plant or plant cell culture comprising a vector according to claim 5 ~~wherein the plant cells express the polypeptide encoded by the DNA.~~
7. (original) A host cell stably transformed or transfected with a vector of claim 5.

8. (currently amended) A plant protectant composition comprising isolated bioactive polypeptide MF3, an isolated active fragment of MF3 or any isolated functional derivative of MF3 ~~isolated components~~ of claim 1.

9. (original) The active fragment of MF3 according to claim 1, wherein the amino acid sequence consists of SEQ ID:3 or SEQ ID:4.

10. (original) A method of isolating and purifying the polypeptide of claim 1 from bacterial cells expressing said polypeptide, the method comprising the steps:

- a) cultivating a microbial producer strain and extracting cells with a buffer solution at an elevated temperature;
- b) precipitating a crude MF3 polypeptide at low temperature with a precipitant;
- c) fractionating re-dissolved precipitate by an anion exchange chromatography column and collecting fractions with anti-microbial or anti-insect activities;
- d) performing polyacrylamide gel electrophoresis of the polypeptide fractions with anti-microbial, anti-nematode, or anti-insect activities;
- e) recovering the protein eluted from the gel of step d.

11. (New) A method to protect plants or plant cell cultures from microbial diseases or pests by applying the protectant composition of claim 8.

12.(new) The method according to claim 11, wherein the plants or plant cell cultures are protected from diseases caused by a microbe selected from the group consisting of *Phytophthora infestans*, *Erwinia carotovora*, *Pyricularia oryzae*, *Fusarium cumorum*, *Septoria nodorum*, Tobacco Mosaic Virus, Potato Virus X, and Potato Virus Y.

13. (new) The method according to claim 11, wherein the plants are protected from potato cyst nematodes.

14. (new) The transgenic plant or plant cell culture of claim 6, wherein the transgenic plant or cell culture expresses increased resistance against a disease caused by a microbe

selected from the group consisting of *Phytophthora infestans*, *Erwinia carotovora*, *Pyricularia oryzae*, *Fusarium cumorum*, *Septoria nodorum*, Tobacco Mosaic Virus, Potato Virus X, and Potato Virus Y.

15. (new) The transgenic plant or plant cell culture of claim 6, wherein the transgenic plant or cell culture expresses increased resistance against potato cyst nematodes.